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ABSTRACT

A study examined whether cross-grade peer tutoring increased student performance on weekly spelling tests. Subjects, 7 sixth graders and 19 second graders attending Coal City Elementary School in Raleigh County, West Virginia, spent 10 minutes each day for 9 weeks working on spelling. The experimental group used cross-grade peer tutoring and the control group used the traditional method. Results indicated that weekly spelling test scores were substantially higher for those students using cross-grade peer tutoring for 6 of the 9 weeks. Both second and sixth graders appeared to enjoy the procedure, grades improved, and spelling class became a class students looked forward to each day. (Contains 50 references, and a table and a chart of data.) (RS)

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ED 411 502

AN ANALYSIS OF THE EFFECTS OF PEER TUTORING ON SPELLING IN A SECOND GRADE CLASSROOM

A Thesis

Presented to

The Faculty of the Master of Arts Degree Program

Salem-Teikyo University

In Partial Fulfillment

of the Requirements for the Degree

Master of Arts in Education

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by

Karen Sue Lane

August, 1997

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This thesis submitted by Karen Lane has been approved meeting the research requirements for the Master of Arts Degree.

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TABLE OF CONTENTS

Chapter 1 ..... Page 1

Introduction ..... Page 1
Purpose ..... Page 1
Research Questions ..... Page 2
Significance of the Study ..... Page 2
Definitions of Terms ..... Page 4
Limitations of the Study ..... Page 5

Chapter 2 ..... Page 6

Review of Literature ..... Page 6
Overview of Tutoring Programs ..... Page 6
Spelling Instruction ..... Page 10
Peer Tutoring ..... Page 19

Chapter 3 ..... Page 31

Methods ..... Page 31
Introduction ..... Page 31
Description of Population ..... Page 31
Hypothesis ..... Page 32
Instrumentation ..... Page 32
Method ..... Page 32
Research Design ..... Page 35
Data Collection Protocol ..... Page 35
Data Analysis Procedures ..... Page 35

Chapter 4 ..... Page 37

Results ..... Page 37
Distribution of Means Chart ..... Page 37
T-Test Table ..... Page 38

Chapter 5 ..... Page 40

Conclusions and Recommendations ..... Page 40

References ..... Page 46

Chapter I

Introduction

Spelling is a complex and difficult skill. Usually, it is considered a measure of literacy (Lerner, 1990). Close examination of the manner in which spelling is being taught in the school reveals that a majority of teachers continue to employ the same procedures used many years ago (Pratt, Struthers, Bartalamay, Williams, & McLaughlin, 1989).

Over the past 20 years, a number of research studies have considered various approaches towards spelling instruction for the elementary and middle school age children. The focus has shifted from methods which involve direct teaching of spelling words to the natural development of children's spelling ability (Weaver, 1992). Invented spelling, a popular method used in the past decade, was associated with a developmental approach. Interest in a whole language approach to the language arts has emerged in recent years, as have specific strategies and activities which help children to develop their spelling skills (Bloodgood, 1991). Other spelling programs used in recent years include those using phonetics, guided reading, as well as literature based curriculum, and instructional methods which are tailored to meet individual student's needs.

Peer tutoring programs have been previously used as an intervention in spelling in the regular and special education classes (Cline, McLaughlin, 1994). It appears to be an easy method to implement without adding to the teacher's workload (Moore, 1989). In order to determine an effective method to increase spelling achievement, information about a peer tutoring procedure called cross-grade peer tutoring would be useful.

Research Question

The following research question was examined in this study: Does cross-grade peer tutoring increase performance on weekly spelling tests?

Significance of the Study

The amount of time in the classroom is limited. Effective instruction is necessary and should provide frequent opportunities for students to respond (Hall, Delquadri, Green, & Harper, 1987; Greenwood, 1984).

Teachers find peer tutoring an easy procedure to implement. It individualizes instruction and, with class sizes of over 20 students per teacher in most regular classrooms, becomes a valuable teaching technique. Peer tutoring helps manage students' classroom behavior

(e.g., Greenwood, Carta, & Kamp, 1990; Greenwood, Delquadri, & Hall, 1989; Gieger, Kauffman, 1976; Kadin and Heesy, 1977). Peer tutoring appears to be more effective than some conventional teacher-mediated instruction methods (e.g., Greenwood et al.,1990; Greenwood, Dinwiddle et al., 1984; Jenkins, Mayhall, Peshka, & Jenkins, 1974). Peer Tutoring increases the opportunities for social interactions among peers (e.g., Lloyd, Crowley, Kohler, & Strain, 1988).

When examining the methods in which spelling is being taught in the school, most teachers continue to use antiquated procedures such as giving a list of words on Monday and a spelling test on Friday (Pratt, Struthers, Bartalamay, Williams, & McLaughlin, 1989). Clearly, more effective methods to teach spelling are needed. It has been found that peer tutoring programs are a powerful intervention in spelling not only in regular education but also in special education (Greenwood, Carta, & Hall, 1986; Cohen, Kulik, & Kulik, 1982). It appears to be an excellent tool for successfully integrating mildly handicapped students into the mainstreamed classroom (Montague, Mecham, & McLaughlin, 1991). It can also serve as a preventative education intervention to keep at-risk

children and youth from entering special education. Peer tutoring appears to reduce, not increase a teacher's workload.

Peer tutoring can be a valuable tool for regular education and special education teachers. It increases opportunities to respond, reduces teacher-pupil ratio, individualizes instruction, improves students' social skills, increases student academic achievement, and integrates handicapped students into the mainstreamed classroom. It is clearly an effective method for teachers in classroom today.

Definitions of Terms

1. Class-wide Peer Tutoring - A peer mediated instructional strategy designed to improve the basic skills performance of children who are low achievers, disadvantage, minority and/or mildly mentally retarded (Delquadri, Greenwood, Whorton, Carta, and Hall, 1986).
2. Cross-grade Peer Tutoring - A peer mediated instructional strategy designed for older students to tutor younger ones (Berlliner & Cassanova, 1993).
3. LanguageMaster - A device that presents curriculum material through the use of auditory and visual prompts.

4. Mainstream - Children with disabilities taught with non-handicapped peers.
5. Mild Mental Retardation - Students who require special instruction in basic communication, self-help, independent-living skills and vocational training in order to function in community living.
6. Self-contained - A classroom where special education students' needs are served in an independent room.
7. Technique - The method of procedure in carrying out an operation.
8. Tutee - A person taught or instructed.
9. Tutor - A sixth grade student instructing a second grade student.

Limitations of the Study

The following limitations are recognized in this study:

1. Because the subjects for this study were not selected by random sampling procedures, these findings may not generalize to students in other locations.
2. The time of day spelling was conducted was dependent upon the sixth graders' schedule who were included in this study.

Chapter II

Review of Literature

Overview of Tutoring Programs

The tutoring programs offered in many elementary and secondary schools today are very different from tutorial programs of yesterday (Cohen, Kulik, & Kulik, 1982). Children today are tutored by peers rather than only professional tutors or regular school teachers. Tutoring programs now are open to boys and girls in ordinary classrooms across the country, not a luxury available only to the elite, according to the findings of Cohen et al.

Several studies have been performed on tutoring in recent years (Devon-Sheehan, Feldman, & Allen, 1976; Ellson, 1976: Fitz-Gibbon, 1977; Rosenshine & Furst, 1969). Each concluded that tutoring programs can contribute to the academic growth of the children who receive the tutoring and probably to the growth of children who provide the tutoring as well.

A study done by S.S. Hartley (1977) found the effects of tutoring in mathematics teaching in elementary and secondary school positive and stronger than other individualized teaching methods.

Cohen, Kulik & Kulik (1982) conducted a study building on Hartley's work. It was meant to answer several major questions about tutoring. How effective does the typical study say that tutoring is? Are certain types of tutoring programs unusually effective? Is tutoring especially effective for certain types of educational outcomes? Unlike Hartley's study, the Cohen research covered studies of different subject areas and described results for different kinds of school outcomes. It treated separate outcomes for student tutors and tutees and included only studies that met reasonable standards.

The first step was to collect a large number of studies that examined effects of tutoring programs on school-age children. They used three guidelines to choose 65 studies they had collected through ERIC computer searches, a data base on educational materials from the Educational Resources Information Center.

First, studies had to take place in actual elementary or secondary school classrooms. Second, they had to report on outcomes in both a tutored group and a nontutored control group. And third, studies had to be free from such flaws as different aptitude levels in the comparison groups and unfair "teaching of the test" to one of the groups. They also

used guidelines established to ensure that each study was counted only once in each analysis.

The 65 studies used in the Cohen et al. (1982) analysis were of many different types. Tutoring was structured and non-structured classrooms, cross-grade and same-grade students, a variety of subject matter, and different durations of the tutoring program.

The 65 studies described effects of tutoring programs on both tutors and tutees. In 45 of the 52 achievement studies, the examination performance of students who were tutored was better than the performance of students in a conventional class. Their results determined that in a typical class tutoring raised the performance of tutored students by approximately two-fifths of a standard deviation-unit. This means the average child in the tutored group scored at the 66th percentile of the students in the untutored or control group.

Results of this study also reported student attitudes toward the subject matter they were being taught. Student attitudes were more positive in classrooms with tutoring programs in all eight of the attitude studies conducted. In 7 out of 9 studies, students in classrooms with tutoring programs also had more favorable self-concepts.

In 33 of the 38 studies performed, it was concluded that the students serving as tutors, same-grade and cross-grade, performed better than did control students in subjects being taught.

In 12 of the 16 studies reporting on the self-concepts of students who served as tutors, self-concept was higher for tutors than those who did not serve as tutors.

The results of Cohen's et al. (1982) study matched closely with the results reported by Hartley (1977).

Further examination of the research showed that studies with certain features consistently produced strong effects. In all, six features were significantly related to the size of the effect. Tutoring effects were larger in more structured programs, and in tutoring programs of shorter duration. The effects were also larger when lower level skills were taught and tested on examinations, and when mathematics rather than reading was the subject of tutoring. Effects were larger on locally developed tests and smaller on nationally standardized tests. Finally, studies described in dissertations reported smaller effects than did studies described in journal articles or in unpublished documents. (Cohen et al., 1982).

Peer tutoring has been used extensively to provide individualization of instruction in academic skill areas ranging from math (Britz, Dixon, & McLaughlin, 1989), and reading (Heron, Heward, Cooke, & Hall, 1983; Topping, 1988) to spelling (Greenwood, Dinwiddie, Terry, Wade, Stanley, Thibadeau, & Delquadri, 1984). Peer Tutoring has also been found to improve peer relations in the classroom (Kohler, Richardson, Mina, Dinwiddie, & Greenwood, 1985). It has been demonstrated that increased academic gains can be made when the peer tutoring process is well-defined and carefully monitored at the classroom level (Britz, et al., 1989, Heron et al., 1983; Greenwood et al., 1984; Slavin, 1989; 1991).Peer tutoring has become one of the best documented procedures to assist children both academically and socially.

Spelling Instruction

Spelling instruction in American schools has traditionally proceeded on the basis that memorization of needed words is the most productive way to teach spelling (Hodges, 1984). This view of spelling reinforces the belief that memorization is not only a necessary but an appropriate means of acquiring spelling skills, according to Richard E. Hodges, author of Learning to Spell, Theory and Research into Practice.

Hodges defined spelling as the process of converting oral language to visual form by placing graphic symbols on some writing surface. He wrote that the writing system used in the majority of the world's languages is alphabetic in structure and that our written code for words appeared to be erratic, even untrustworthy, in its relationship to the spoken language. Hodges stated, as a result, mastering English spelling had been regarded as an unnecessarily time-consuming and arduous task.

In the past several years, linguists and others interested in English orthography have helped to clarify the actual relationship between our writing system and the spoken language (Hodges, 1984). Their work revealed that factors such as the relationship among letters within words, the way prefixes and suffixes are appended to roots, are a fundamental property of the orthography.

One of the first major studies to examine how children learn to spell was conducted by Charles Read, a linguist now at the University of Wisconsin (Read 1975). Read looked at the way in which children four to eight years old used their knowledge of English phonology to spell words. Among his subjects were twenty preschoolers who were able to

identify and name the letters of the alphabet and to relate the letter names to the sounds of words. These children used the "invented" spellings for words that they wrote by arranging movable letters. Read found that even at an early age children are able to detect the phonetic characteristics of words that English spelling represents. More interesting, although these young children misspelled most of the words they attempted, with minor variation, they misspelled the words in the same ways. For example, children typically spelled the sounds of words written with alphabet letters whose names were like those sounds: bot for boat, fas for face, lade for lady.

Read's work disclosed that children, even very young children, try to make sense of the world around them by using the information that is available to them. Read demonstrated that the judgements of children about relationships between speech and writing are different from those made by adults. In short, learning to write, like learning to speak, is a developmental process.

An examination of spelling development among youngsters in later school years was undertaken by Templeton (1979). To determine the extent to which knowledge of graphic structure contributed to spelling

ability, he studied the abilities of sixth-, eighth-, and tenth-graders to construct and spell derived forms of real and nonsense words. Templeton found considerable evidence that spelling ability does not rely solely on skills for relating sound and spelling, or upon rote memory. Rather, both phonological knowledge and visual knowledge about words are brought into play when older students spell, the visual knowledge having been acquired, of course, only from extensive experiences with reading and writing.

It has been found that spelling ability involved more than memorizing the spelling of individual words (Hodges, 1982). Learning to spell, in short, involved learning about words over a long duration and in a variety of contexts (Read, 1983).

Among the important insights that have been gained about the nature of spelling ability, perhaps the most important was the realization that this ability involved more than word memory skills (Hodges 1981). Hodges found from his study that learning to spell involved learning about written language in everyday use and about the interrelationships of components of words.

Hodges concluded that there existed a need to be aware that students contribute actively to their own learning and provide them with numerous and frequent opportunities to explore English spelling in the context of daily writing and reading activities.

A study was done by Thomas Horn, (1976) on a distinctly different method of teaching. He recommended testing before study. He found it had a distinct advantage - to release pupils from studying words they already know. He wrote that testing before study told pupils which words they needed to study and allowed teachers to know which students needed additional help and encouragement. This technique utilized testing, studying and retesting procedures. He stated that he felt it was the most efficient single method known for learning to spell, often resulting in an error reduction of 50 percent.

Horn's study involved pupils taking a spelling test with no previous exposure to the word list, correcting their own tests as the teacher or another pupil spelled each word orally, then retesting and correction. This learning process emphasized recall and utilized visual, auditory, and kinesthetic imagery, according to Horn.

J. Richard Gentry (1987) has stated that too much that is known about how to teach spelling which isn't being put into practice. He also wrote that there is no subject taught more poorly than spelling. In Gentry's book, Spelling is a Four-letter Word, he stated that for many years, more people seemed to have considered themselves poor spellers rather than good spellers, even though most of us spell the vast majority of words correctly.

Research indicated that young children using the method of invented spelling employed a greater variety of words in their writing than those encouraged to use only the words they can spell correctly (Gundersan & Shapero, 1987, 1988; Clark, 1988; Stice, & Bertrand, 1990).

By the end of first grade, children encouraged to use invented spelling typically score as well or better on standardized tests in spelling than children allowed to use only correct spellings in first drafts of writings (Clark, 1988, Stice & Bertrand, 1990).

Young children encouraged to use invented spellings seemed to develop word recognition and phonics skills sooner than those not encouraged to spell the sounds they hear in words (Clarke, 1988).

Linda Stelzer (1993) has tried to answer the question, "Where does spelling fall in the big picture of an integrated language program?" She wrote that spelling often has educators and parents scratching their heads in confusion when not butting heads in outright combat. Stelzer, a second grade teacher in Longmont, Colorado, suggested spelling is a subskill of writing and learning to spell is a developmental process, that is helped along by direct instruction, modeling, and lots of practice. She stated that just as young writers should not be hampered by insisting they spell every word correctly, neither should they be hampered in their daily writing by their inability to spell high-frequency words. Direct instruction could help children acquire a vocabulary and spelling strategies for writing just as instruction in the application of strategies could foster independence in reading (Stelzer, 1993).

Stelzer incorporated spelling instruction into a daily language program as the need arose. She wrote that a mini-lesson in spelling could occur naturally with the whole group, in a small group, or individually. She also taught spelling as a planned part of the language program. Research has shown that about fifteen minutes of direct instruction and

practice in spelling every day promoted the acquisition of a solid writing vocabulary and spelling strategies(Stelzer, 1993).

Stelzer concluded that integrating spelling into the total language program put it into its proper place - as a subskill of writing, but it was a skill that she taught in a meaningful way as a planned part of her program with direct instruction and student-based activities.

Constance Weaver (1994) suggested in Phonics in the Whole Language Classroom, that children develop phonics, spelling, and other skills by: having familiar stories or poems read to them repeatedly; developing their own strategies for learning letter/sound relationships in the context of these reading selections; reading favorite stories, songs, and poems independently or with a peer; and developing their own strategies for learning letter/sound patterns. Also, choosing their spelling words from these stories, songs, and poems encourage success in spelling. She concluded that teachers can help children develop spelling skills by having faith in children as learners, discussing interesting spelling patterns of words in shared readings and emphasize letter/sound cues with prior knowledge and context.

Rebecca Sipe stated in her article "Strategies for poor spellers", that not all students can learn to spell a word by memorization. She suggested that phonics could be a valuable tool in the teaching of spelling in the early grades. Many students benefited from studying word families, using mnemonic devices, tactile methods, peer tutoring, and cooperative learning, according to Sipe. She also reported that spelling gained importance when students wrote. Sipe wrote that the following research-based practices may prove helpful in the teaching of spelling: (1) recognize that spelling is writing skill; (2) remember that spelling is a developmental process; (3) use developmentally appropriate practices; (4) insist on correct spelling of words that have been studied; (5) concentrate on high-frequency words; (7) focus instruction on time-tested strategies; (8) encourage students to use personal word lists; (9) emphasize word study with peers; and (10) encourage parent participation.

Janet Bloodgate (1991) suggested alternative teaching approaches to traditional spelling instruction, which she concluded was often an isolated event which was out of touch with other language arts. She determined that the integration of spelling and word study activities with

reading and writing activities provided reinforcement and encouraged learning in all the language arts.

Peer Tutoring

D. Berliner and U. Casanova (1993) conducted a study on cross-age tutoring in spelling and other subjects. A very basic tutor-training program was used to train parents to provide remedial instruction to the own youngsters. After two and one-half months of instruction by parents, their children made six and one-half months gain in reading achievement (McNaughton, Robinson, & Quinn, 1979)

Wheldall and Mettem (1985) of the Center for Child Development, University of Birmingham, England brought the same tutorial program into the schools. In this case the tutors were older students, equivalent to 10th-and 11th-graders, instead of parents and all had been in their school's remedial reading program. They were taught a simple three-step tutoring technique that is very easy to learn in a short period of time (Wheldall & Mettem, 1985).

In this system the tutors were taught to pause, prompt, and praise. Pause reminded the tutor to delay attention to a reader's error for at least five seconds, or until the end of a sentence. Delaying attention to errors

encouraged tutees to self-correct more often (Wheldall & Mettem, 1985).

Wheldall and Mettem (1985) used prompts, rather than straightforward corrections, so the reader would figure out the clues that must be read. If prompting failed, then tutors were urged to model for the tutees the use of clues to predict words and meanings.

The third technique used in the study by Wheldall and Mettem was praise. It was important that praise be given for self-correcting responses and appropriate behaviors. Also, more general praise should be given for effort and progress in reading.

The results of the study by Wheldall and Mettem (1985) were as follows: The untrained tutors responded to every error that tutees made, while the trained tutors delayed their responses to 58 percent of the errors made. When errors occurred, the untrained tutors supplied corrections immediately, the trained tutors used prompts 27 percent of the time. The trained tutors gave praise 8.8 times per session, the untrained tutors hardly at all.

In addition, when comparing the reading levels of the tutees in the study, the tutee working with trained tutors had finished 36 levels, while

those working with untrained tutors had finished 29 (Wheldall & Mettem, 1985).

Wheldall and Mettem were able to also conclude the when tutors were trained in the pause, prompt and praise technique, the rate of completion when reading silently was 50 percent higher . In addition, they concluded that this program worked well for parents as well as for cross-age tutors who work with elementary-age students.

David Berliner and Ursula Casanova wrote that cross-age tutoring gave the students opportunities to work with and help each other. They suggested it was probably more comfortable for children than was peer tutoring because it more closely resembled the family situation of the older helping the younger.

The article "Low-achieving students as successful cross-age tutors" (Giesecke, D., 1993), evaluated a cross-age peer tutoring intervention using four low-achieving grade-four students as tutors and three grade-three students reading at grade level. The tutors and tutees all improved their sight word performance substantially. All participants reported they liked the program and tutors also improved in their self-concept . Also, achievement tests showed improvement for tutors and tutees.

Research showed great gains for both tutees and tutors when using cross-age tutoring, even when the children being tutored and the tutors were from special education backgrounds (Topping, 1987). Carole Urzua wrote about this type of tutoring program in an article titled "The literacy club: A cross-age tutoring/paired reading project." Nearly all of the children involved in this project spoke English as their second language. Many have been learning English for only a year or two.

Children were paired as much as possible with students who share their primary language. The Rapid Readers assumed the responsibility of reading to the Little Readers. They talked about books, identified good books to read, and discussed how little children learned to write. The Rapid Readers were encouraged to translate any of the books into the Little Readers' native language because, the goal was to help the Little Readers to become literate.

These students must engage in authentic experiences. They must read for real purposes and write texts that will be read by real audiences. They must also engage in situations that help them learn to become self-sufficient, trusted, empowered human beings.

The older students in the club seem to develop in areas that could come only through the empowerment they feel in being the teacher, such as impressive levels of confidence, risk-taking behavior, and language and literacy development (Urzua, 1991).

Urzua concluded that the use of the student's native language in classroom activities would help students develop positive attitudes about bilingualism. She wrote that the activities would also help students strengthen their literacy skills in their native languages. She found the Literacy Club was one place in which children could use all that they had and were to bring about development for both older and younger children.

A peer tutoring method called Class-wide Peer Tutoring (CWPT) was developed by Delquadre, Greenwood, Stretton, and Hall in 1983. It was a procedure in which students worked with a partner, taking turns acting as "tutor" and "tutee". Students were also on class teams competing for a winning point score. Kohler and Greenwood conducted a study in 1990 using this procedure in an urban elementary classroom to improve students' spelling performance. The study was called,

"Effects of Collateral Peer Supportive Behaviors Within The Class-wide Peer Tutoring Program."

A review of their study reported the CWPT increased the spelling scores to six out of seven low-achieving third graders to equal those of high-performing students in the class. A second finding of their study was that some "tutors" exhibited behaviors that were never taught as a component of the procedure. For example, some tutors prompted their partner to respond more quickly and gave approval and assistance for a correct, rapid response. This increased their number of points earned by them and their team.

This study was conducted in the Kansas City, Kansas School District. All 23 students participated in the split grade-level class. It contained 18 third graders and 5 fourth graders.

Seven third graders participated as subjects. All procedures occurred in the regular classroom during a thirty minute spelling period four days per week. This time was divided into two ten minute tutoring sessions and one ten minute point recording period. The first ten minutes, one student acted as a tutor and his partner was the tutee; the students exchanged roles during the second ten minute period.

The procedures were as follows:

1. Tutor said the word.
2. Tutee spelled the word orally while writing the word on paper.
3. Tutor responded ("You are correct." or "That word is wrong. The correct spelling is 'moist'.")
4. Tutee orally repeated spelling of the word three times.
5. Tutor awarded two points for correct spelling of word and one point for incorrect word repeated correctly three times. Tutor rewarded zero points if any of the repeated words were incorrect.

Weekly tests were given by the teacher each Friday and points posted on a chart.

Six of the seven subject students learned a high percentage of words over the course of the study as indicated by weekly spelling data (pretest M=26% vs. post-test M=80%).

A study specifically focusing on at-risk fourth graders was conducted by Judith Cline and T. R. McLaughlin (1994) using Class-wide Peer Tutoring in spelling. The study, "An Analysis of Two Peer Tutoring

Models for Spelling Performance With At-Risk Elementary School Students", included six at-risk students who were performing below grade level in basic skills (reading, math, language, and spelling). The class was located in an ethnically mixed urban school in the Pacific Northwest. The setting for this study was the fourth grade classroom. The class had an average enrollment of 27 students. Similar procedures were used as in the previous study by Kohler and Greenwood. However, Cline and McLaughlin also used the LanguageMaster to compare the effects of the CWPT program. The number of words on the weekly test ranged from 18 to 20 and were taken from the regular spelling curricula *Working Words in Spelling-D*, (Woodruff, Moore, Forest, Talbot, and Balbot, 1988). The students were paired, as in Kohler and Greenwood's (1990) study, and given stars for work completion to put on cards attached to their desks, instead of being given daily and weekly points. After ten weeks of CWPT, three of the six subject students showed dramatic gains during Class-wide Peer Tutoring (27%, 12.2%, and 12.5%).

The device called the LanguageMaster was then introduced to the class. It presented material through the use of auditory and visual

prompts. It was added to the peer tutoring strategy. It has been commonly used in special education classrooms. The words were visible to the tutor only. Rules for peer tutors using the LanguageMaster were:

1. Tutor said the word.
2. Tutee listened to the word on the machine.
3. Tutee spelled the word aloud.
4. Tutor continued to the next word.

It took approximately 20-30 minutes of teacher time per pair to set up and monitor the LanguageMaster. This was clearly not practical for classroom teachers.

The data indicated to Cline and McLaughlin (1994) that the addition of the LanguageMaster to the tutoring process only slightly improved the students performance in spelling over that found with CWPT for only half of the students participating. Since the overall improvement showed no clear improvement over CWPT, the practicality of this instrument was questionable (Cline & McLaughlin, 1994).

Gregory Harper and Barbara Mallette (1991) conducted a study using class-wide peer tutoring with students in a self-contained class-room with mild mental retardation called "Peer-Mediated Instruction:

Teaching Spelling to Primary Schoolchildren With Mild Disabilities". They suggested that optimal instruction for students with mild mental retardation (and all other students) provided frequent opportunities to respond (Hall, Delquadri, Greenwood, & Thurston, 1982). Also, an ideal teaching model had high response rates and high accuracy of response (Harper & Mallette, 1991).

The results indicated that students accurately implemented the program, that high rates of accurate practice were produced, and spelling test performance increased by more the 60%. No negative outcomes were noted. They also found that the cost of materials was minimal, and little additional effort was required from the teacher (Harper & Mallette, 1991).

Class-wide Peer Tutoring was used in a study by Barbara Mallette, Gregory Harper, Larry Maheady and Margaret Dempsey (1991) with students classified as mildly mentally retarded. The name of their study was "Retention of Spelling Words Acquired Using a Peer-Mediated Instructional Procedure". They also investigated the short- and long-term retention of words practiced.

They chose 9 students in a self-contained classroom for children with mild, mental retardation in western New York as participants for the study. They used the Class-wide Peer Tutoring procedure developed by Delquadre, Greenwood, Stretton, and Hall in 1983. Words for the spelling program were selected by the teacher from the Dolch list, since no spelling program was currently in use. Results indicated that the student's average score was over 95% correct on weekly tests. Long-term retention, measured on a post-test, reported positive evaluations of CWPT (Mallette et al., 1991).

The authors concluded that this study demonstrated that Class-wide Peer Tutoring was an effective intervention to improve the spelling test performance of children with mild mental retardation, it resulted in the retention of words learned over a significant period of time, it produced high rates of accurate student practice, and was regarded be student participants as academically and socially beneficial (Mallette et al., 1991).

After reviewing the literature on the teaching of spelling and peer tutoring, it appeared there was a high percentage of success in using these methods. Therefore, it was apparent that a study combining

Classwide Peer Tutoring and cross-grade peer tutoring, would be beneficial to the spelling performance of elementary students (Mallette et al., 1991).

Chapter III

Methods

Introduction

This study was designed to investigate the effects of cross-grade peer tutoring, pairing second and sixth grade students. This method was intended to increase the rate of student responses by offering repeated practice of spelling words with individualized help from a tutor.

Description of Population

Subjects selected for this study were students attending Coal City Elementary School in Raleigh County, West Virginia. The experimental group consisted of 19 second graders, 8 girls and 11 boys, between the ages of 7-9 years of age. Serving as their tutors were seven sixth graders, 11 and 12 years of age. The regular second grade teacher in the study had 20 years of teaching experience, including 12 years in second grade.

The control group was another second grade of 19 students in the same school, 7 girls and 12 boys, all between 7-9 years of age. The teacher had over 20 years teaching experience.

Hypothesis

Ho: No significant difference in spelling success on weekly spelling tests between students using cross-grade peer tutoring during spelling practice sessions and those students who use traditional teaching methods in spelling will be found.

H1: The use of cross-grade peer tutoring will result in higher scores on weekly spelling tests than those students who use traditional teaching methods in spelling.

Instrumentation

Weekly spelling pretests and posttests were given on words practiced each week. The word list for the experimental and the control groups originated from the literature used in reading for that particular week, mainly from the vocabulary words. The lists were the same for both groups. Tests consisted of 11 words .

Method

Cross-grade peer tutoring was used during spelling practice sessions during nine weeks in a second grade classroom. The 19 students were paired with 7 sixth graders for 10 minutes four days of each week. The procedures for cross-grade peer tutoring (pairing

second graders with a sixth grade student) were followed.

The experimental group was instructed in the methods used in cross-grade peer tutoring during the first week of school. The list of 11 words were introduced to the class prior to the peer tutoring activities. These words were given to each child for that week on a newsletter sent home on Mondays. The words were read each day and the students pronounced each word. This procedure was repeated prior to tutoring activities daily. Each week, the classroom was divided randomly into two competing teams. Students' names were drawn from a covered box to determine team memberships.

Each student was assigned to a sixth grade student "tutor" for 10 minutes. When time was expired, they went to their seat and another student went to each tutor.

Both tutor and tutee followed the prescribed instructional procedures for the cross-grade peer tutoring method. The sequence was as follows:

1. The tutor said the word.
2. The tutee said and spelled the word orally.

3. The tutor gave feedback. If the word was correct, one point was given. If incorrect, the tutor showed the tutee the correct spelling and the tutee then spelled the word orally three times. The tutor gave one point for correcting the mistake.
4. If the tutee failed to respond or correct a mistake, no points were awarded. The more words given, the more points they earned for themselves and their team.

While peer tutoring was being conducted, the remainder of the students were involved in journal writing. The students were verbally rewarded for following procedures correctly. Immediately following the tutoring sessions, students totaled their daily points and recorded them on a chart posted in the classroom. Tutoring sessions occurred four times per week followed by a weekly test on the fifth day. Tests were taken individually. All points were totaled at the end of the week and the winning team was announced.

The control group was given a pretest and a posttest on the same group of 11 words. This group used the traditional method of practicing the spelling words. There students were given the list of spelling words

on Monday, practiced the words orally and in written form throughout the week, were given a pre test on Wednesday, and a final test on Friday.

Research Design

The dependent variable for spelling achievement using cross-grade peer tutoring in this study was the percent correct on weekly spelling pretests and posttests.

The independent variable in this study was the use of cross-grade peer tutoring during spelling practice sessions over a period of nine weeks.

The research design of this study was the two-group, pretest, posttest design. This design involved a pretest given prior to administering the experimental treatment and a posttest given after treatment.

Data Collection Protocol

Data was collected by the administering of pretests and post-tests weekly. A reading teacher in the school regraded the tests to insure non-bias.

Data Analysis Procedures

The data for this study was analyzed by using a one-tailed, two sample t-test at a .05 significance level. The pretest scores were

subtracted from the posttest scores weekly. An example follows:

Posttest 1 - Pretest 1 =_____

Posttest 2 - Pretest 2 =_____

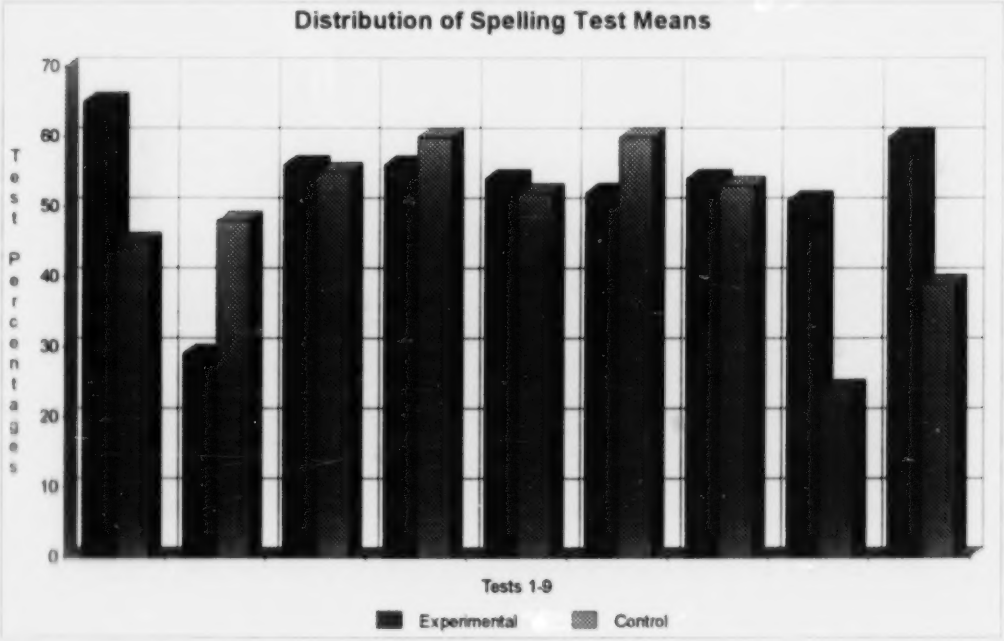
The weekly game-scores were totaled and compared. Nine weeks of study were completed.

Chapter IV

Results

In this study of cross-grade peer tutoring one research question was asked.

Does cross-grade peer tutoring increase performance on weekly spelling tests?



The above Distribution of Means chart shows the mean percentages of weekly spelling tests for the experimental and the control

groups. The experimental group used cross-grade peer tutoring and the control group used the traditional method for teaching spelling.

The experimental group percentages were higher six out of nine weeks of testing. The control group percentages were higher 3 weeks of testing. This chart clearly shows how each group in the study compares to the other on their weekly spelling test.

The experimental difference of means was higher than the control difference of means in five of the tests performed. The experimental standard deviation of the difference of means was higher than the control group in five tests performed and lower in three of the tests. The standard deviation of the difference of means was the same in one test.

	T-test												
	Test 1	Test 2	Test 3	Test 4	Test 5	Test 6	Test 7	Test 8	Test 9	Sum	Mean	Standard Deviation of the Mean	T-test
Experimental	65	29	56	56	54	52	54	51	60	477	53	9	1.050
Control	45	48	55	60	52	60	53	24	39	436	48	11	

The T-test shows the difference of mean scores and the sum of those scores for all nine weeks of the study for the experimental and control groups. The sum of the difference of mean scores for the experimental group was 477 in which cross-grade peer tutoring was

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used. The sum of the difference of mean scores for the control group was 436 in which the traditional method of teaching spelling was used. This is a difference of 41. The mean for the experimental group was 53 with a standard deviation of 9. The control group had a mean of 48 and a standard deviation of 11. Note that the t-value obtained was 1.0503.

Data for this study was analyzed using a one-tailed T test formula with a .05 significance level. A t-value of 1.05 was obtained at p=.05. The null hypothesis must be rejected and the alternate was accepted. There was sufficient evidence to warrant rejection of the claim that there is no significant difference in spelling success on weekly spelling tests between students using cross-grade peer tutoring during spelling practice sessions and those students that use traditional teaching methods in spelling. The alternative hypothesis must be accepted.

Chapter V

Conclusions and Recommendations

Elementary schools are being challenged today to provide quality instruction. Conducting new methods of teaching must be considered. For this reason the study of cross-grade peer tutoring in spelling was conducted.

In this study using cross-grade peer tutoring, seven sixth-graders worked with 19 second-grade students. For ten minutes each day the sixth graders were paired with second graders to study their weekly spelling words. The sixth-graders acted as tutors and said the spelling words, as the second-graders spelled the words. Two ten minute sessions were conducted with one 10-minute recording session.

The experimental group used the cross-grade peer tutoring. The control group used the traditional method. Weekly spelling scores were substantially higher for those students using cross-grade peer tutoring six of the nine weeks of the study. The greatest difference in scores occurring weeks 1, 8, and 9.

In summarizing the findings of this study, the sum of the experimental group's difference of mean scores was 477. The sum of

the difference of mean scores for the control group was 436, a difference of 41.

A one-tailed T-test was performed with a .05 significance level. A 1.05 t-value was obtained. It was concluded that the null hypothesis must be rejected.

This study has shown that cross-grade peer tutoring improved spelling scores on the weekly spelling tests. Students appeared to enjoy the new procedure and the social benefits of working with the sixth graders. In the previous grade, the students had been taught spelling using the traditional method. They had been given the words on Monday, used them in written work throughout the week, and given a test on Friday. The use of cross-grade peer tutoring in this study seemed to be preferred by the children in the experimental group to the traditional method.

The social benefits found in this study were also observed in the study by Cohen, Kulik and Kulik, (1982). They found student attitudes were more positive in classrooms with tutoring programs in all eight attitude studies they conducted.

These same benefits were observed in this study on cross-grade peer tutoring. Both second and sixth graders appeared to enjoy the sessions and both groups wanted to continue the program when the 9-week study ended.

As indicated by the study conducted by Harper and Mallette (1991), cross-grade peer tutoring provided frequent opportunity to respond, high response rates and high accuracy to respond. Spelling test performance increased, the cost of materials was minimal, little additional effort was required from the teacher, and no negative outcomes were noted.

The second grade students were favorable to having a pre-test along with a post-test each week. These students had only post-tests in first grade. Having a pre-test, the students were able to measure their improvement each week from beginning to end. They also learned which words they would need to study that week. Thomas Horn (1976), recommended testing before the study so, not only the teacher can monitor the student's progress, but, also the student can monitor his own progress.

Linda Stelzer (1993), concluded from her study that spelling should be incorporated into her total language program. Spelling, then, should

be taught as a meaningful part of her instruction daily. This was found to be true in the experimental group. Words were chosen that correlated with the theme being taught in the language program. The students in the experimental group acquired many spelling skills while studying these words. Some of the words are not thought of as being a "second grade" word, such as dinosaur, sea anemone, and hurricane. These were accurately practiced and spelled on the post-tests. Spelling should be incorporated with the total language program (Stelzer, 1983)..

This study of cross-grade peer tutoring agreed with the findings of Rebecca Sipe (1994), in that not all students can learn to spell by memorization only. Other techniques can be valuable to those students, such as phonics, studying word families, and cooperative learning.

The results of this study indicated improvement in weekly spelling tests. Success and benefits were observed during the 9-week study. Both second and sixth graders appeared to enjoy the procedure, grades improved, and spelling became a class the students looked forward to each day. It was concluded that using the cross-grade peer tutoring, along with traditional methods was greatly beneficial. In this way, the students benefited from the frequent opportunity to respond offered by

the peer tutoring and the social benefits of working with older students. They also experienced the advantage of other techniques found in the traditional approach; therefore, using both procedures in the teaching of spelling would be recommended. The teacher and both age groups of students would benefit. Other recommendations would include using a pretest each week to help the student know which words to study and incorporate spelling into the total language program. Students spelled words which were considered too long and difficult to be learned in the second grade. Also, the students considered them exciting, interesting, and fun to learn.

Utilizing other teaching techniques along with memorization was valuable. Various teaching techniques to accompany cross-grade peer tutoring were phonics, tactile methods, cooperative learning, pretesting, incorporating spelling into the language program, and also, using the traditional method.

Other recommendations for future research might include a larger sample, a longer study, such as a study continuing the entire school year, and a study conducted with other grade levels.

Cross-grade peer tutoring was a technique found to be beneficial to students and should be incorporated into the curriculum. This method was found to be a positive learning experience in the classroom and one that should be recommended for the teaching of spelling in elementary schools.

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